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| EXAMINER | |
|---|---|
| MURPHY, RHONDA L | |
| ART UNIT | PAPER NUMBER |
| 2667 | |

DATE MAILED: 09/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 09/978,342 | ZELIG ET AL. | |
| | Examiner | Art Unit | |
| | Rhonda Murphy | 2667 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) 1-60 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-60 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on 10/17/01 is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 8/18/05.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

## DETAILED ACTION

### *Specification*

1. The disclosure is objected to because it contains an embedded hyperlink and/or other form of browser-executable code on page 5 and 6 of the specification. Applicant is required to delete the embedded hyperlink and/or other form of browser-executable code. See MPEP § 608.01.

### *Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1–20, 23–28, 31–50, 53–58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yasue et al. (US 2002/0093949) in view of Gotzer (US 2002/0018482).

**Regarding claims 1 and 31**, Yasue teaches receiving a time-division-multiplexed (TDM) input signal on a first circuit (Fig 1, CE transmitter 3), the signal comprising an input sequence of frames of data, each such frame divided into sections for carrying respective sub-rate payloads (Fig. 1, SONET frame); determining which of the sections are active, such that the data in the sub-rate payloads of the active sections comprise user data (page 3, paragraph 39), and encapsulating the user data in the active

sections into data packets for transmission over a packet network (page 10, paragraph 163).

Yasue further teaches a selector for selecting various kinds of data. However, Yasue fails to explicitly disclose the various kinds of data as inactive data and also fails to disclose omitting at least some of the data from the inactive sections.

However, Gotzer teaches inactive data and omitting inactive data (page 2, paragraph 19; blank data arriving on this connection is suppressed).

In view of this, it would have been obvious to one skilled in the art to modify Yasue's method by omitting inactive data, so as to conserve bandwidth by not transmitting empty data.

**Regarding claims 2 and 32**, Yasue teaches receiving the packets over the packet network (Fig. 1, wherein the illustrated ATM network is an IP network; page 10, paragraph 163); extracting the user data from the packets (page 3, paragraph 41); and generating an output sequence of the frames of the data for transmission in a TDM output signal over a second circuit (Fig. 1; page 3, paragraph 41), by inserting the extracted user data in selected sections among the sections of the frames in the output sequence (page 3, paragraph 47).

**Regarding claims 3 and 33**, Yasue teaches a method wherein generating the output sequence comprises providing a circuit emulation service over the packet network (Fig, 3; page 3, paragraph 5) whereby the user data are transmitted between the first and second circuits in a manner transparent to a sender and a recipient of the data (Fig 1; page 4, paragraph 71).

**Regarding claims 4 and 34**, Yasue teaches the method described above in the rejection of claim 2.

Yasue fails to disclose inactive sections and default data.

However, Gotzer teaches inactive sections comprising default data, and wherein generating the output sequence of the frames comprises inserting the default data in the sections of the frames in the output sequence that are not selected, whereby the sections that are not selected correspond in form to unequipped sections (page 2, paragraph 19).

In view of this, it would have been obvious to one skilled in the art to modify Yasue's method by including inactive sections and inserting default data, so as to occupy sections in a frame that are intended to hold default data.

**Regarding claims 5 and 35**, Yasue teaches a method wherein the selected sections of the frames in the output sequence are substantially the same sections as the active sections of the frames in the input sequence (page 3 and 4, paragraph 47; position information extracted by the position information extracting section is located at the same position in the output frame).

**Regarding claims 6 and 36**, Yasue teaches a method wherein generating the output sequence of the frames comprises assigning at least one of the selected sections of the frames in the output sequence to correspond to at least one of the active sections of the frames in the input sequence (page 3 and 4, paragraph 47), and transferring the user data from the at least one of the active sections to the at least one of the selected sections that corresponds thereto (page 3 and 4, paragraph 47).

Yasue fails to disclose transferring data so as to cross-connect a source link in the first circuit to a recipient link in the second circuit.

However, Gotzer discloses transferring data so as to cross-connect a source link in the first circuit to a recipient link in the second circuit (page 2, paragraph 28 and 34).

In view of this, it would have been obvious to one skilled in the art to modify Yasue's method by transferring data in order to cross-connect links in each circuit, so as to provide the fastest transmission method by cross connecting the links.

**Regarding claims 7 and 37**, Yasue teaches a method wherein receiving the TDM input signal comprises assembling the sections of the frames of the input signal from multiple sources (page 5, paragraph 90). Furthermore, it would have been obvious to one skilled in the art to assemble frame sections from multiple sources, since signals carry data from multiple users.

**Regarding claims 8 and 38**, Yasue teaches a method wherein encapsulating the user data comprises inserting into the packets an indication of a timing adjustment to be applied to one or more of the active sections (page 5, paragraph 89), and wherein generating the output sequence of the frames comprises adjusting the user data in at least one of the selected sections responsive to the indication (page 6, paragraphs 98-99).

**Regarding claims 9 and 39**, Yasue teaches a method wherein adjusting the user data comprises applying different timing adjustments to different ones of the selected sections (page 5, paragraph 89).

**Regarding claims 10 and 40**, Yasue teaches generating the output sequence of the frames.

Yasue fails to explicitly teach a plurality of output signs sent to different destinations.

However, it would have been obvious to one skilled in the art to send a plurality of output signals containing the data from different ones of the active sections to different, respective destinations, since the output signals related to various active sections of different users may have different intended destinations.

**Regarding claims 11 and 41**, Yasue teaches the method wherein the first circuit comprises one of a Synchronous Optical Network (SONET) link and a Synchronous Digital Hierarchy (SDH) link (Fig. 1), and wherein the sections comprise virtual tributaries of the frames received on the link (Fig. 2).

**Regarding claims 12 and 42**, Yasue teaches a method wherein encapsulating the user data comprises inserting in the packets pointer movement indications (page 6, paragraph 105), indicating timing difference between the received data in the input signal and a reference timing signal (page 6, paragraph 103), to be applied in generating an output sequence of the frames of the data for transmission over a second circuit without changing pointers of the virtual tributaries pointers relative to the frames in the output sequence (page 6, paragraph 105).

**Regarding claims 13 and 43**, Yasue teaches a method wherein encapsulating the user data comprises inserting in the packets pointer movement indications (page 6, paragraph 105), indicating timing differences between the received data in the input

signal and a reference timing signal (page 6, paragraph 103), to be applied to virtual path level pointers of the active sections in generating an output sequence of the frames of the data for transmission over a second circuit (page 6, paragraph 105).

**Regarding claims 14 and 44**, Yasue teaches a method wherein encapsulating the user data comprises adjusting virtual tributary pointers at the first circuit relative to frame pointers of the input signal and a reference timing signal (page 6, paragraph 79 and 105), and wherein encapsulating the user data comprises generating the packets according to the reference timing signal, thereby obviating further adjustments of the pointers in generating an output sequence of the frames of the data for transmission over a second circuit (page 6, paragraph 106-111).

**Regarding claims 15 and 45**, Yasue teaches a method wherein receiving the TDM input signal comprises inserting the data from at least one of a DS1 signal and an E1 signal into one or more of the active sections in the input sequence of the frames (page 5, paragraph 86).

**Regarding claims 16 and 46**, Yasue teaches the same limitations described in the rejection of claims 14 and 44.

**Regarding claims 17 and 47**, Yasue teaches the method described in the rejection of claims 1 and 31.

Yasue fails to disclose inactive sections comprising default data.

However, Gotzer teaches inactive sections comprising default data (page 2, paragraph 19).

In view of this, it would have been obvious to one skilled in the art to modify

Yasue's method by including inactive sections and inserting default data, so as to occupy sections in a frame that are intended to hold default data.

**Regarding claims 18 and 48**, the combined method of Yasue and Gotzer teach inactive sections.

Yasue and Gotzer fail to explicitly disclose inactive sections marked as unequipped sections.

However, it would have been obvious to mark inactive sections as unequipped, so as to indicate a particular section does not contain data.

**Regarding claims 19 and 49**, Yasue teaches the method described in the rejection of claims 1 and 31.

Yasue fails to disclose inactive sections configured such that the data in the inactive sections is not to be sent over the packet network.

However, Gotzer teaches inactive sections configured such that the data in the inactive sections is not to be sent over the packet network (page 2, paragraph 19).

In view of this, it would have been obvious to one skilled in the art to modify Yasue's method by not sending data in the inactive sections over the packet network, so as to conserve bandwidth by not transmitting empty data.

**Regarding claims 20 and 50**, Yasue teaches the method wherein encapsulating the user data comprises adding a label to the packets for transmission over the packet network (page 5, paragraph 76).

**Regarding claims 23 and 53**, Yasue teaches a method for applying a circuit emulation service (CES) to a Synchronous Optical Network (SONET) input signal that includes a

plurality of input virtual tributaries containing data (Fig. 1), the method comprising: determining which of the input virtual tributaries in the SONET input signal are active, such that the data in the active virtual tributaries comprise user data (page 3, paragraph 39); receiving the SONET input signal at a CES transmitter on a first SONET link (Fig. 1); encapsulating the user data in the active virtual tributaries of the SONET input signal into data packets at the CES transmitter (page 10, paragraph 163); transmitting the packets over a packet network from the CES transmitter to a CES receiver (Fig. 1); extracting the user data from the packets at the CES receiver (page 3, paragraph 41); and generating a SONET output signal comprising output virtual tributaries at the CES receiver by inserting the extracted user data from each of the active virtual tributaries into a corresponding one of the output virtual tributaries (page 3 and 4, paragraph 47).

Yasue fails to disclose omitting some data from inactive virtual tributaries.

However, Gotzer teaches omitting from the packets at least some of the data from the inactive virtual tributaries (page 2, paragraph 19; blank data arriving on this connection is suppressed).

In view of this, it would have been obvious to one skilled in the art to modify Yasue's method by omitting inactive data, so as to conserve bandwidth by not transmitting empty data.

**Regarding claims 24 and 54**, Yasue teaches generating a SONET output signal.

Yasue fails to disclose inserting default data into the output virtual tributaries that do not correspond to the active virtual tributaries of the SONET input signal.

However, Gotzer teaches inserting default data into the output virtual tributaries

that does not correspond to the active virtual tributaries of the SONET input signal (page

2, paragraph 19).

In view of this, it would have been obvious to one skilled in the art to modify Yasue's method by inserting default data, so as to occupy the appropriate sections in a frame that are intended to hold default data.

**Regarding claims 25 and 55**, Yasue teaches the method wherein generating the SONET output signal comprises inserting the extracted user data from each of the active virtual tributaries into the same one of the output virtual tributaries (page 3 and 4, paragraph 47).

**Regarding claims 26 and 56**, Yasue teaches the same limitations described in the rejection of claim 6.

**Regarding claims 27 and 57**, Yasue teaches the method wherein encapsulating the user data comprises inserting SONET pointer adjustment data into the packets (page 5, paragraph 89), and wherein generating the SONET output signal comprises adjusting the user data in at least one of the output virtual tributaries responsive to the pointer adjustment data (page 6, paragraphs 98-99).

**Regarding claims 28 and 58**, Yasue teaches the method wherein adjusting the user data comprises applying different pointer adjustments to different ones of the virtual tributaries (page 6, paragraph 79 and 105).

4. Claims 21-22, 29-30, 51-52 and 59-60 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yasue et al. (US 2002/0093949) in view of Boyle et al. (US 6,831,932).

**Regarding claims 21 and 51**, Yasue teaches a method wherein encapsulating the packets comprises sending the packets over the packet network (page 10, paragraph 163) and adding a label (page 6, paragraph 93).

Yasue fails to disclose the packet network as a Multi-protocol Label-Switched (MPLS) tunnel, and wherein adding the label comprises preparing the label for transmission of the packets using circuit emulation over MPLS.

However, Boyle teaches a Multi-protocol Label-Switched (MPLS) tunnel, and wherein adding the label comprises preparing the label for transmission of the packets using circuit emulation over MPLS (col. 9, lines 13-19).

In view of this, it would have been obvious to one skilled in the art to modify Yasue's method by including an MPLS tunnel and label, so as to provide an even faster method of transmitting data across the network.

**Regarding claims 22 and 52**, Yasue teaches the method wherein the packet network comprises an Internet Protocol (IP) network (page 10, paragraph 163) and adding a label.

Yasue fails to disclose adding the label comprising preparing the label for transmission of the packets as IP packets using circuit emulation over a Multi-protocol Label-Switched (MPLS) path through the IP network (col. 9, lines 13-19).

In view of this, it would have been obvious to one skilled in the art to modify

Yasue's method by preparing a label for packets as IP packets using circuit emulation over an MPLS path, so as to provide an even faster method of transmitting data across the network.

**Regarding claims 29 and 59**, Yasue teaches the method wherein encapsulating the user data comprises adding a label to the packets (page 5, paragraph 76; page 6, paragraph 93).

Yasue fails to disclose conveying the packets via a label-switched tunnel through the packet network.

However, Boyle teaches a Multi-protocol Label-Switched (MPLS) tunnel.

In view of this, it would have been obvious to one skilled in the art to modify Yasue's method by including an MPLS tunnel, so as to provide an even faster method of transmitting data across the network.

**Regarding claims 30 and 60**, the same limitations are described in the rejection of claims 21 and 51.

***Conclusion***

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

*Kataoka et al. (US 2002/0015411) discloses STS frame-atm cell circuit emulation apparatus and frame length compensation method for the same.

*Nigam et al. (US 2005/0135436) discloses any size and location of concatenated packet data across SONET frames in a SONET signal.

*Bisson et al. (US 2003/0026298) discloses flexible multiplexer/demultiplexer and method for transport of optical line data to a wide/metro area link.

*Williams (US 2004/0101303) discloses a method and apparatus for providing OC-n virtual bridge ports.

*Shimamura et al. (US 2001/0033575) discloses an interface apparatus.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rhonda Murphy whose telephone number is (571) 272-3185. The examiner can normally be reached on Monday - Friday 8:00 - 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi Pham can be reached on (571) 272-3179. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Rhonda Murphy
Examiner
Art Unit 2667

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9/19/05